DOCUMENT RESUME

ED 138 512 SO 009 964

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TITLE Teaching Introductory Sociology: Paradigms, Methodologies, and Interactive Computing.
PUB DATE Jan 76
NOTE 19p.; Paper presented at Annual Meeting of the American Sociological Association (New York, New York, August 30-September 3, 1976)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Computer Assisted Instruction; Effective Teaching; Higher Education; *Instructional Improvement; Instructional Media; Interaction Process Analysis; Program Descriptions; *Simulation; Social Structure; *Sociology; Success Factors; *Teaching Methods

ABSTRACT

The paper describes a computer-based project designed to help college instructors teach introductory sociology. The project combines a variety of orientations to expose students to basic sociological concepts, classic theories, and the breadth of the discipline. Two traditional methods of teaching sociology include relying on different instructors or selecting readings which reflect the various orientations of sociologists. Disadvantages of these approaches concern availability of sufficient instructors and stress of substantive readings at the expense of formal methodology. As a result of the tendency to ignore the "doing" of sociology, students are often badly prepared for research projects. Advantages of simulations in overcoming these problems are ability to compress a long project into one or two hours, schedule students, help instructors with unfamiliar methodologies, self-pacing, and student reinforcement. Two requirements for setting up the project are: (1) identification of significant subdivisions with a subjective, or interpretive, orientation, and those with an objective, or substantive orientation; and (2) creation of computer programs that simulate research activities in these areas. Four programs, which focus on surveying, participant observation, documentation, interviewing, and data analysis, are described. A sample interactive simulation is presented in the appendix. (Author/DB)

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TEACHING INTRODUCTORY SOCIOLOGY: PARADIGMS, METHODOLOGIES, AND INTERACTIVE COMPUTING

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January, 1976

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TEACHING INTRODUCTORY SOCIOLOGY: PARADIGMS, METHODOLOGIES, AND INTERACTIVE COMPUTING*

In most departments of sociology, it is often difficult to find instructors willing to teach the introductory course. With recent development of the field, it may become difficult to find instructors able to teach it. Not only is the field and its knowledge growing rapidly, but it is undergoing division into distinct sub-disciplines, each of which must be taken into account in any representative introduction to the discipline. This difficulty--the multi-paradigm nature of current sociology--is the subject of this report, which describes a project that attempts a computer-based solution to the problems facing introductory course instructors.

The difficulty is that there is now not one, but several, sociologies. Each of these has its own epistemology, methods, set of researchable problems, issues, and ethics (Ritzer, 1975). This multi-paradigm nature of our discipline is a fact of fairly recent salience. Only lately have the sub-disciplines gained sufficient numbers of adherents to make their work visable and distinct. However, several introductory texts have already recognized this state of affairs and attempted to deal with it (e.g., Hagedorn and Labovitz, 1973). Nevertheless, for most of us who teach introductory sociology, the multiple-orientation course remains an impossible dream rather than an achievement. What is both difficult and embarrassing is that very few of us are able to give a competent (let alone unbiased!) view of sociology as others do it. The result is that our introductory students more often than not encounter only a single orientation, and in later years may be astonished taking courses taught by instructors who <u>call</u> themselves sociologists and call what they <u>do</u>

sociology, but who seem to have little in common with that first glimpse of the discipline.

As the several paradigms become increasingly relevant and recognized, current ways of presenting the discipline become more and more inadequate. Presently, students are likely to be introduced to the discipline as a collection of substantive interests: the family, race and ethnic relations, small groups, formal organizations, and so on. But the new paradigms cut across these lines. A given work on the family may be presented from an empiricist, interactionist, or Marxist perspective, and what each has to say, the conclusions it draws, the evidence it considers and the methods for dealing with the data will vary dramatically from one perspective to another. The problem, then, is that our introductory course must not only expose students to the basic concepts and the classics, but also give them a feeling for the discipline as it exists today--a discipline of several different paradigms.

Two ways of dealing with the problem are often suggested: multiple instructors and representative readings. Each has its own particular disadvantages. Relying on different instructors to present the different perspectives is perhaps the ideal approach. One person drawn from each field can present the basic assumptions and methods of his own paradigm, and discuss some of the current problems of interest as well as more classic works. However, aside from the problem of availability of instructors since not all paradigms are represented in every department, this method usually involves some potential scheduling difficulties. And whether these instructors rotate among sections of the introductory course, or divide the course into several consecutive sub-courses using large

lectures and small tutorial groups, instructors lack the time and opportunity to establish much contact with their classes, and students often feel a lack of continuity in courses using this format.

The alternative solution is to rely on a selection of readings from each of the paradigms, perhaps a classic work in the field plus examples of some more recent research. The major difficulty with this solution is that, unless the readings include a methodology text (and such texts are almost always beyond the level of introductory course students) students reading these reports are exposed to the product or "findings" at the expense of the method, or the "doing" of sociology. As a result, much that distinguishes one paradigm from another, the day-to-day working assumptions, techniques and decision-making, is left untouched.

It is from the difficulties with this last solution that our own answer to the problem of teaching a multi-paradigm sociology emerged. The drawbacks of the "research readings" answer point to another general problem with introductory courses, and we found that by dealing simultaneously with the two problems we hit upon a single solution for both.

This second general problem is that of introducing students to the practices of sociology, the everyday decisions and working assumptions that underlie the more formal methodology presented in necessarily brief fashion in most introductory texts. As a result of the tendency to ignore the "doing" of sociology in favor of substantive findings, students in courses at this and higher levels are often badly prepared for the research projects later assigned them. Even more important, lack of familiarity with research practices and methods limits their critical understanding of published reports and articles. Some courses attempt to overcome this omission by having the class pursue a joint project, but such efforts are

usually costly in terms of time and advance preparation.

At this point, then, we have two problems: the multi-paradigm nature of sociology, and an adequate understanding of sociological methods and techniques. The solution? Simply to introduce students to each of the paradigms through its own particular research practices. In other words, students carry out a piece of research in each of the paradigms. The advantages are clear. Students learn what it is that sociologists do, and how they do it, as well as studying the products of those efforts. From this emerges a realization of the differences among the different paradigms at the most important level, in terms of how the underlying assumptions of each determine how its practitioners carry out the work of the paradigm.

But if the solution and its advantages are clear, the problem of implementing the solution appears formidable. If a single research project is beyond the scope of most introductory classes, how can three or four research projects be carried out? We believe the answer lies in a tool sometimes used by sociologists themselves, namely the simulation of research projects. The use of interactive computers simplifies such simulations by compressing into one or two hours a project that would take weeks to prepare and mount in the classroom. The computer offers a number of other advantages as well. Most important, it takes some of the load off the shoulders of instructors who might not feel competent to deal with unfamiliar methodologies. Further, the computer can help "schedule" students and keep track of their performances; it provides an immediate and one-to-one response for each student and consequently better opportunities for self-evaluation, and each student can work

through the set of programs at his own pace. In addition, learning is more effective since students can learn from mistakes as well as successes, it involves both interesting and unusual situations, and it is associated with an activity i.e., operating an interactive terminal (Association of American Geographers, 1969; Hicks and Hunka, 1972; Holtzman, 1970).

The basis of our strategy, then, is to introduce students to the different "styles" of sociology through the methods of the different paradigms. More specifically, the simulation of an actual piece of research in each of the areas which puts the student in the position of having to make decisions in light of his research goals, illustrates for him the different methods of attacking research problems, as well as the different sorts of problems each paradigm deals with.

Our first task in this project was to identify the major paradigms to which we felt introductory students should be introduced. A survey of the literature indicates that no clear-cut agreement exists as to how the predominant paradigms of sociology are identified. It is clear that several dimensions are involved. Some definitions, for example, are made on the basis of subject matter. Hagedorn and Labovitz (1973) discuss structural, social action, and behavioral orientations, representing the study of structural components of groups, motivations and behavior of individuals, and behavioral interaction patterns respectively. Ritzer (1975) also finds three predominant paradigms: social facts, social definitions, and social behavior. These are differentiated on the basis of what is fundamentally a view of the subject matter. The first is concerned with the study of social structures and social institutions, the second concentrates on the ways in which individuals define their social situations and how these

definitions affect action, the third concentrates on individual behavior and its contingencies.

Others have seen paradigms not so much in terms of subject matter but as theoretical perspectives. Friedrichs (1970), for example, sees system and conflict theory as representing the two major paradigms, plus a number of other candidates, including exchange theory and phenomenology. Similarly, Effrat (1972) sees a large number of paradigms, many closely associated with the theoretical efforts of a single individual, e.g., Marxist, Freudian, Durkheimian, Parsonian, and in addition phenomenology, ethnomethodology, symbolic interactionism and exchange. Among others, Wright, Weiss and Unkovic (1975) identify the theoretical models of structural functionalism and conflict theory in their introductory text. Turner (1974) suggests four predominant theory-based paradigms: functionalism, conflict theory, interactionism and exchange theory.

As mentioned above, our concern with identifying paradigms includes not only theoretical and substantive orientations, but also epistemologies and methodologies. When these criteria are combined, there emerges one major division within the discipline that has implications for theory, subject matter, epistemology and methods, and that is the difference between the subjective and objective approaches.

The former (also called the "cognitive" or "interpretive" approach) concerns itself with the study of individual interpretation, definition, motivation, and everyday life and discourse. Its proponents hold that only by knowing these elements can we come to understand the features of social interaction, and ultimately groups, collectivities and larger institutions, social structures and processes. The latter (often called

the "positivistic" school) concentrates instead on the observable or reportable elements of the behavior of individuals, groups, organizations and societies, and seeks to relate the various factors among these different levels. Consequently, not only are the basic elements of subject-matter different (external properties versus internal cognitions), but their epistemologies differ as well. What constitutes explanation for one is a more or less complete grasp, and often a sympathetic understanding, of cognitive states. The other accepts the establishment of causal relationships according to well-defined statistical means as constituting an important element of understanding. The methods and techniques of the two schools also differ in fundamental ways. Internal cognitions and everyday practices are accessible through in-depth and unstructured interviews, participant and non-participant observation, documents and letters, and whatever materials (e.g., ethnographies) will give the researcher a "feel" for the situation or epoch of the subject of his concern. The objectivist on the other hand employs the survey (interviews, questionnaires, polls) as a major tool, along with other means such as experiments, systematic analysis of documents and records (content analysis), and systematic observation.

This initial major division underlies our efforts to identify methodologies and paradigms in current sociology. The next step is to determine the significant subdivisions within each of the two broad areas. Among the subjectivists, three major methodological schools emerge. The first relies heavily upon participant observation to learn the workings of social situations through lengthy contact with the groups of interest. The second school employs impressionistic analysis of records and

documents, often combined with lengthy, in-depth interviews. The third, ethnomethodology, is concerned with the devices and techniques that persons employ to structure and order their everyday lives. Methodologically, this school often relies on the analysis of recorded "talk". The two major objectivist schools differ mainly in approaches to theory corresponding roughly to an inductive-deductive distinction. One school applies survey research methods to specific situations and issues in attempting to make inferences about the causal processes underlying them. The other focuses on the rigorous test of deductive theories by means of highly controlled laboratory experiments. Several intermediate variations exist including, for example, field experiments.

It should also be noted that, despite the convenience of the initial division into subjective and objective approaches, this categorization omits some pursuits that other sociologists engage in. One of the more prominent of these might be termed theoretical analysis, whose practitioners concern themselves with the comparison and elaboration of relatively large-scale theoretical schemes, often drawing on historical studies or using as secondary data results from the two paradigms described above. Theorists such as Marxists, structural functionalists, critical theorists, and exchange theorists are not often directly concerned with empirical research per se, and consequently their activities are difficult to fit into the above paradigms and methodologies framework.[1]

Given these perspectives, and our cautionary notes, we turn to the task of devising interactive computer programs that simulate the research activities of sociologists in these different areas. By doing each program, the student learns the nature of the work and some types of

problems each paradigm deals with. He is in a position to compare their assumptions about the way the world works. Further, it is intended that these programs stand "alone" as much as possible, in the sense that minimal prior in-class preparation will be necessary, although some instructors may want to have in-class discussions after students have completed all the programs.

Within each of the two major areas, we have devised two programs that reflect the most predominant paradigms. The objectivist area includes a survey on teenage alcohol use, and an experiment on small group behavior. The first subjectivist program is one employing participant observation as two students play a game, each at a separate terminal. The second is an analysis of a health-care center that makes use of documents and interviews. Each of these programs is now described briefly.

The survey simulation puts the student in the role of a sociological researcher interested in studying some aspect of alcohol use among teenagers. After defining his problem, the student must make decisions about sources of funding, definition of population, type of sample, interview-item construction, research personnel and so on, all in light of his originally defined objectives. He is given a certain budget, which his expenses must not exceed. In addition, each decision earns a number of "research points", representing the quality of the data (and consequently of the conclusions he can draw at the end of his study).

The experiment program is similar in a number of respects, except that the decisions are pertinent to the experimental method. The choices include a field or laboratory experiment, selection of subjects, tests of the independent variable manipulation, number of subjects per condition,

and so on. Again, the student initially determines his objective, and subsequent decisions are evaluated in light of that purpose.

Computer programs that reflect research activities under the subjective paradigms are by the nature of the areas more difficult to conceive and execute since the focus is on others' internal states rather than the objective data that others generate. Nevertheless, we feel that we have in our two programs succeeded in conveying much of the flavor of this kind of research. The two-person game, for example, puts the student directly in the situation of analyzing his own and another's motivations and definitions of the situation. The program is based on Blumer's (1969) two-stage model of interactionist methodology: exploration, in which the student acquires familiarity with the situation, and inspection, his analysis of what is occurring. The two students sit at different terminals out of sight of one another, unaware of the identity of their partner. After giving some personal data for later use in the program (age, sex, year in college, major), students begin with several moves in a variant of the Deutsch and Krauss "trucking game" (1962) we have adapted for interactive terminals. They are asked to analyze their game as a real, on-going social situation with reference to actors' motives and perceptions. The notion of the verstehen method is introduced, and as the game progresses, the players are given information about each other, are permitted to ask questions of the other via the interactive terminals, and are given the chance to test their hunches of how the other will respond in certain circumstances. The program points out that they must take into account the context of their interaction (a requirement for a university introductory course) and also makes clear that the method is subjective both in the sense of studying others' cognitive states and with respect to the

conclusions drawn by the investigator (there is no one "true" analysis). The program concludes with a discussion of "framing" the analysis of the game interaction as an instance of a more general type of interaction (e.g., "cheating" behaviors). Several examples of framing are given, and students are invited to write up their analysis of the situation as a follow-up.

In the program illustrating the methodology of the second subjectivist paradigm, the student takes the role of a researcher contracted to examine the workings of a government-supported health center and to make recommendations about continued funding. The emphasis is on using documents, interviews and other materials to "track down" what is happening, and to develop analytic elements reflective of what is occurring. After an introduction to the verstehen approach, the student is told that the center has undergone some internal political difficulties, and is suffering from poor relations with the surrounding community. As investigator, he is operating under a time limit, and can select only a limited number of potential data sources. These include approximately 20 items, such as an interview with the centre's director, newspaper clippings, an organization chart prepared by the government funding agency, minutes of staff meetings, interviews with doctors, other administrators, patients, community leaders and nurses, budgets, newspaper editorials, and so on. Those the student chooses to use are presented in summarized form. Each data source uses up a certain number of "time points", of which the student can spend up to 100. As well, during the program several "incidents" occur which the student can study more closely if he wishes (at the cost of additional time points); for example, one staff member physically assaults another; one end of a

telephone conversation between the director and a doctor is "overheard" while the investigator is interviewing the former; and nurses temporarily go on strike. Finally, the student makes his recommendations, choosing from several alternatives offered by the funding agency. As a follow-up to the program, students can be asked to write reports summarizing their findings and making their own analysis of the situation. A class can also be encouraged to compare their recommendations as a means of seeing the different analyses of the situation each student developed.

These four programs constitute the initial core of our package designed to introduce students to the basic paradigms of sociology through their epistemologies and research methods.[2] Each simulates a research situation in which the student makes decisions and analysis similar to those confronting research sociologists. Although the situations and decisions are simplified so as to be appropriate for the introductory course level, we feel that they convey the flavor of each paradigm's work, and thus provide an effective introduction to sociology as a multi-paradigm discipline.[3]

At present, the programs are in various stages of development and evaluation. We have sought to make use of both informal student opinion, and more formal evaluation techniques. Initial feedback suggests that these programs not only accomplish their pedagogical ends, but that students find them both interesting and thought-provoking. If they ultimately prove to be as successful as we hope, then the way is clear to further use of simulations as teaching methods, employing the computer as an adjunct to the classroom lecturer faced with not only growing numbers of students, but a discipline growing in scope to the extent that few teachers are capable of conveying to their students the breadth of what is sociology today.

FOOTNOTES

* This research has been generously supported by grants from the Ontario Universities Program for Instructional Development.

1. Hagedorn and Labovitz (1973) recognize this difference in emphasis in their characterization of three different epistemologies: verstehen, positivist, and functionalist.

2. Although the basic outline is not yet clearly developed, we would like to add to the package of programs one illustrating the work of theoretical sociologists. For example, both functionalist and Marxist analysis might be applied to a common set of data.

3. We have named the package of programs "ISIS", an acronym for Interactive Simulations for Introductory Sociology.

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APPENDIX: SAMPLE OF AN ISIS PROGRAM

INTERACTIVE SIMULATIONS FOR INTRODUCTORY SOCIOLOGY ('ISIS')

SURVEY SIMULATION

THIS IS ONE OF THE 'ISIS' PROGRAMS THAT ILLUSTRATE THE DIFFERENT METHODS SOCIOLOGISTS USE.

IN THIS PROGRAM YOU ARE A SOCIOLOGIST STUDYING TEENAGE ALCOHOL USE IN THE 'LOHOCLA' DISTRICT OF ONTARIO. YOUR TASK IS TO DESIGN A SURVEY TO GET THE MOST AND BEST INFORMATION POSSIBLE WITH THE LEAST TIME AND MONEY. YOU WILL BE MAKING A SERIES OF DECISIONS. A DECISION THAT SPENDS TIME OR MONEY WISELY WILL EARN RESEARCH POINTS. AT THE END OF THE PROGRAM YOU CAN SEE HOW GOOD YOU ARE BY SEEING HOW MANY POINTS YOU HAVE EARNED:

40 POINTS OR MORE: EXCELLENT.
30 - 39 POINTS: GOOD.
20 - 29 POINTS: FAIR.
19 POINTS OR LESS: POOR.

YOUR FIRST DECISION IS THE KIND OF STUDY YOU WANT TO DO. THERE ARE THREE FUNDAMENTAL ALTERNATIVES:

1. A DESCRIPTIVE STUDY

THE GOAL IS TO GET AN ACCURATE 'PICTURE' OF TEENAGE ALCOHOL USE IN THE LOHOCLA DISTRICT: WHO DRINKS, WHEN AND WHERE, WHAT THEY DRINK. ETC.

2. A STUDY OF CAUSES

YOU MAY HAVE SOME HUNCHES OR EVEN HYPOTHESES ABOUT FACTORS CAUSING ALCOHOL USE WHICH YOU WANT TO TEST, E.G., THAT IT IS A SYMPTOM OF REBELLIOUSNESS. YOU WILL ALSO CONSIDER ALTERNATIVE EXPLANATIONS, AND THE PROCESSES THAT LEAD TO DRINKING.

3. A STUDY OF CONSEQUENCES

AGAIN YOU MAY HAVE HUNCHES OR HYPOTHESES TO TEST SUCH AS 'ALCOHOL USE LOWERS STUDENTS' GRADES.' ARE THE FACTORS RELATED? IF SO, IS THERE AN ALTERNATIVE EXPLANATION, SUCH AS 'BEING ALIENATED FROM SCHOOL LEADS TO BOTH LOWER GRADES AND DRINKING'? AN IMPORTANT CONCERN HERE IS TO DELETE OTHER POTENTIAL CAUSES SO YOU CAN BE SURE WHAT YOU OBSERVE IS REALLY A CONSEQUENCE OF DRINKING, AND NOT AGE, FOR EXAMPLE.

YOUR CHOICE OF THE PURPOSE OF YOUR STUDY IS NOT WORTH ANY POINTS BUT IT SETS THE STAGE FOR THE REST OF YOUR RESEARCH DECISIONS. IN THESE DECISIONS, A GOOD CHOICE FOR ONE PURPOSE MIGHT BE A BAD CHOICE FOR A DIFFERENT PURPOSE.

WHAT KIND OF STUDY DO YOU WANT TO DO:

1. DESCRIPTIVE
2. CAUSES
3. CONSEQUENCES

(TYPE 1, 2 OR 3)

2

NOW THAT YOU KNOW WHAT YOU WANT TO DO, HOW WILL YOU FINANCE YOUR STUDY?

1. FINANCE IT YOURSELF. YOU HAVE $700 YOU COULD SPARE
2. THE LOHOCLA SCHOOL BOARD IS CONCERNED THAT INCREASED DRINKING MIGHT BE AFFECTING THEIR PROGRAMS, AND THEY HAVE $14,500 TO SPEND.
3. THE ADDICTION RESEARCH FOUNDATION IS INTERESTED IN PATTERNS OF TEENAGE ALCOHOL USE--WHO BECOMES AN ALCOHOLIC AND HOW. THEY HAVE $15,500 TO SPEND.
4. TO CHOOSE THE AUDIENCE AND CONTENT OF AN ADVERTISING CAMPAIGN TO REDUCE TEENAGE DRINKING, THE MINISTRY OF HEALTH WANTS TO KNOW WHY CERTAIN TEENAGERS DRINK, AND THE RESULTS OF DRINKING. THEY HAVE $15,000 AVAILABLE.

THIS DECISION IS WORTH 5 POINTS.

WHOSE MONEY WILL YOU USE?
(TYPE 1, 2, 3 OR 4)

3

THE ADDICTION RESEARCH FOUNDATION IS A GOOD CHOICE IF YOUR INTEREST IS THE SAME AS THEIRS: CAUSES AND TYPES OF DRINKING. IF YOU WANT TO STUDY CONSEQUENCES YOU WILL HAVE TO COMPROMISE.

SINCE YOUR PURPOSE IS CAUSES YOU GET 5 POINTS OUT OF 5.

YOUR NEXT JOB IS TO DEFINE SPECIFICALLY YOUR POPULATION, THAT IS, THE PEOPLE WHOSE DRINKING YOU WANT TO STUDY. YOUR CHOICES ARE THREE:

1. ALL THE TEENAGERS IN THE LOHOCLA DISTRICT.
2. ALL THE TEENAGERS IN THE NINE LOHOCLA DISTRICT HIGH SCHOOLS.
3. ALL THE TEENAGERS IN ONE GRADE OF LOHOCLA HIGH SCHOOLS, SAY GRADE 11.

DIFFERENT POPULATIONS LEAD TO CONCLUSIONS ABOUT DIFFERENT GROUPS OF PEOPLE.

THEREFORE, YOUR CHOICE OF A_____
LIMITS HOW GENERAL YOUR CONCLUSIONS ARE.
(FILL IN)